

US006362808B1

(12) United States Patent

Edge et al.

(10) Patent No.:

US 6,362,808 B1

(45) Date of Patent:

*Mar. 26, 2002

(54) ARRANGEMENT FOR MAPPING COLORS BETWEEN IMAGING SYSTEMS AND METHOD THEREFOR

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(*) Notice:

This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

- (21) Appl. No.: 08/909,932
- (22) Filed: Aug. 12, 1997

Related U.S. Application Data

(63)	Continuation of application No. 08/882,561, filed on Jul. 3,
` '	1997, now Pat. No. 6,088,038.

(51)	Int. Cl.	G09G 5/04
(52)	U.S. Cl.	345/153; 345/150; 345/154
		245/155+ 245/421+ 245/100

(56) References Cited

U.S. PATENT DOCUMENTS

3,612,753 A	10/1971	Korman 178/5.9
3,893,166 A	7/1975	Pugsley 358/80
4,482,917 A	* 11/1984	Gaulke et al 358/518
4,500,919 A	2/1985	Schreiber 358/78

4,884,130 A		11/1989	Huntsman 358/80
4,884,221 A		11/1989	Sugiyama et al 364/526
5,012,431 A		4/1991	Stanziola 364/526
5,105,267 A		4/1992	Hayashi 358/80
5,233,684 A	٠	8/1993	Ulichney 395/131
5,305,119 A	*	4/1994	Rolleston et al 358/522
5,339,176 A		8/1994	Smilansky et al 358/504
5,402,253 A	•	3/1995	Seki 358/518
5,432,906 A		7/1995	Newman 395/162
5,506,696 A		4/1996	Nakano 358/504
5,526,285 A		6/1996	Campo et al 364/526
5,528,386 A	•	6/1996	Rolleston et al 358/522

(List continued on next page.)

FOREIGN PATENT DOCUMENTS

EP	0 475 554	3/1992
EP	0 622 952	11/1994
EP	0 706 285	4/1996
EP	0 604 755	12/1999
wo	WO 93/20648	10/1993

OTHER PUBLICATIONS

International Color Consortium, "ICC Profile Format Specification," Version 3.3, Nov. 1996.*

(List continued on next page.)

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57) ABSTRACT

A color mapping method is used in transforming colors between color imaging systems. The method includes using forward transformation profiles that characterize the color imaging systems to generate respective sets of device-independent color values for the color imaging systems. Color conversions are calculated by reducing differences between the respective sets of device-independent color values. Based on these color conversions, a color map is constructed that describes a relationship between the color imaging systems.

36 Claims, 6 Drawing Sheets

